

Forces

1. Speed

CONCEPT 1

WHAT IS SPEED?

NOTES

When you travel on a journey, it takes a certain amount of time to travel the **distance**. The **speed** of a vehicle is worked out from how far a journey is and how long it takes. In the science lab the **units** used for measuring speed are **metres per second (m/s)** BUT different units for speed can be used depending on the units used for measuring the distance and the time e.g. the speed of a car is given in **kilometres per hour (km/h)** or **miles per hour (mph)**.

When traveling fast your speed is high. You can cover a longer distance in a certain time – you travel more metres in each second, compared with travelling slower.

We use an **equation** to calculate speed: $\text{speed} = \text{distance travelled} \div \text{time taken}$

When you consider a journey in real life then the speed of an object does not always remain the same. If we use the total distance and the total time taken for the journey then we calculate the **average speed** for the object. The actual speed at times will be higher than the average speed and lower than the average speed.

If we consider very short distances and very short times then we calculate the speed of an object at an instant in time – we call this **instantaneous speed**.